

THERMOSTAT INSTALLATION

Part Number:	100897KIT	Includes:	1-thermostat
(b-200)			2-mounting
screws			2-lock
washers			4-panel screws
Equipment used in:	Masterpiece 500T	Tools Needed:	#2 Phillips
screwdriver			
	Commercial 210M		#2 Straight
blade screwdriver			
	Jumbo 160M		1/8" Straight
blade screwdriver			

INSTALLATION PROCEDURE

1. Unplug the press power cord from the power source.
2. Use a small 1/8" straight blade screwdriver to remove the thermostat knob and the spring underneath.
3. Use a #2 Phillips screwdriver to remove the four screws that secure the nameplate and remove the nameplate with the thermometer attached.
4. Tag the three wires connected to the thermostat to help identify their proper location, then using the #2 straight blade screwdriver, remove the two screws securing these wires to the thermostat.
5. Use the #2 Phillips screwdriver to remove the two screws that secure the thermostat in position and remove it.
6. Install the replacement thermostat in the reverse order and make certain that all wiring is correctly and securely hooked up.
7. Reinstall the thermometer and nameplate, taking care to ensure that the thermometer sensor is seated securely on the platen, and that the thermometer stem is properly and fully inserted into the sensor.
8. Turn the thermostat shaft fully clockwise and secure the knob in position so that it points to the 350 deg. F mark. Then turn the knob back to the 200 deg. F position.
9. Plug the press power cord back in, turn the power switch on and let the press warm up with the top in the closed but not locked position.

10. Wait 20-30 minutes for the press to warm up. Enough time should be allowed for the amber heater light to go off and on two or three times to be certain the plated temperature has stabilized.
11. After warm up is complete, check to see whether the reading on the press thermometer (if so equipped*) agrees with the thermostat setting (200 deg. F). If not, either indicate the true setting on the dial surrounding the thermostat, or contact Hunt Technical Service for thermostat calibration instructions.

*NOTE: For those presses that do not have a thermometer installed and working, a thermocouple style pyrometer should be used to check the actual platen temperature. Place the thermocouple beneath the platen directly under the thermostat. If a pyrometer is not available, Temperature Indicator Strips can be used, following the directions included with them.

THERMOSTATS FOR 500TX & 250MX

These thermostats consist of three components – Control Board, Output module and Sensor Assembly. Please note the following replacement suggestions:

Heating light off, machine not heating.....Control Board
Heating light flickers, machine not heating to temp.....Sensor Assembly
Heat light on, uncontrolled heat.....Output Module

These are general causes and replacement suggestions. Further information for heat/temperature control related problems on these units contact Bienfang Technical Service for assistance. (888-240-6021)

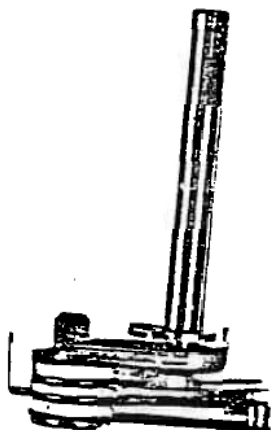
THERMOSTAT IDENTIFICATION



PART NO: MPH-80

PRESS MODELS: 350, 200, 150, 120

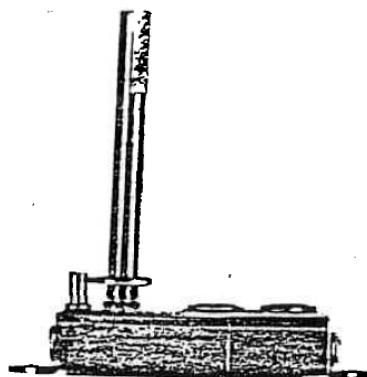
WIRE ENDS; RING TERMINALS.



PART NO: 133108

PRESS MODELS: GENERATION THREE

WIRE ENDS; SLIP-ON



PART NO: 100897

PRESS MODELS: GENERATION FOUR PRESSES

WIRE ENDS; RING TERMINALS

THERMOSTAT CALIBRATION

Tool required:

One small straight blade screwdriver

Procedure:

If your press is not equipped with a thermometer, a device to measure the platen temperature will be needed. If a pyrometer with thermocouple is used, the thermocouple should be placed under the platen near the thermostat. Temperature indicator strips are also available from your local distributor. Calibration is accomplished as follows:

1. Set the thermostat knob as 350 degrees F and allow the press to heat up and stabilize approximately 15 minutes. This should be done with the press top resting on the sponge pad.
2. Remove the thermostat knob without turning the shaft by loosening the setscrew in the side of the knob.
3. Noting that the shaft is hollow, insert a small straight blade screwdriver down the shaft and turn slightly, feeling for the screw. Do not turn the screw.
4. If the temperature of the press is below 350 degrees F, wait for the amber heater indicator light to go out. Immediately upon shutting off, turn the screw until the light turns back on, then turn the screw 1/8 of a turn further. (See chart at end of instructions for proper direction of turn according to type of thermostat). **Note:** Be certain the shaft does not turn while turning the adjustment screw.
5. The amber light turns on when the heater is on. Allow the press to stabilize again. If the temperature is still below 350 degrees F, repeat the above instructions.
6. If the actual temperature is above 350 degrees F, wait for the light to turn on. Immediately turn the screw (making sure the shaft does not turn) until the light goes out. Repeat these steps until the thermostat is calibrated.

MPM80 Turn screw counter-clockwise to increase temperature

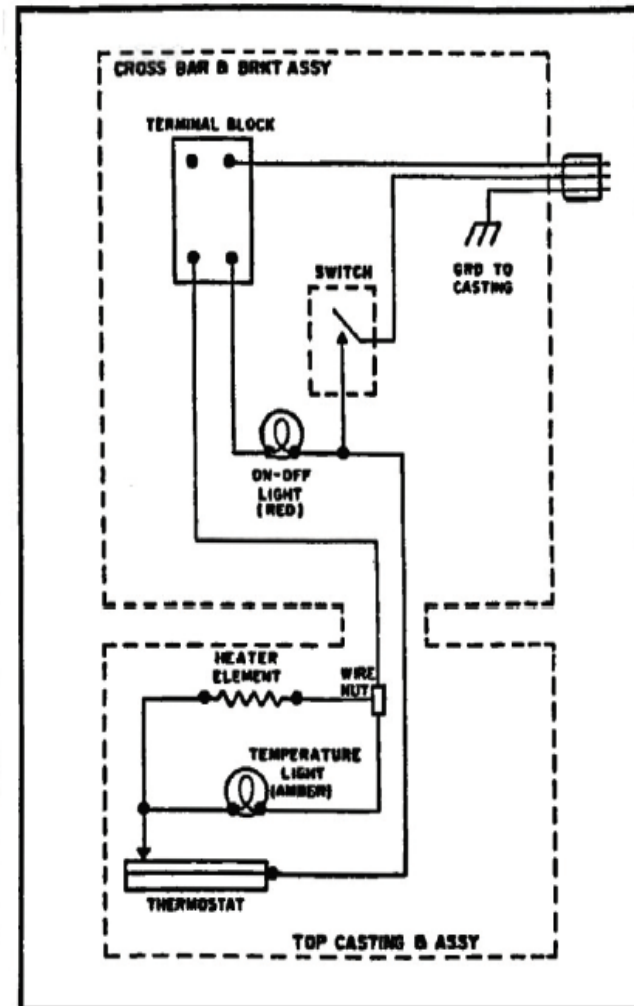
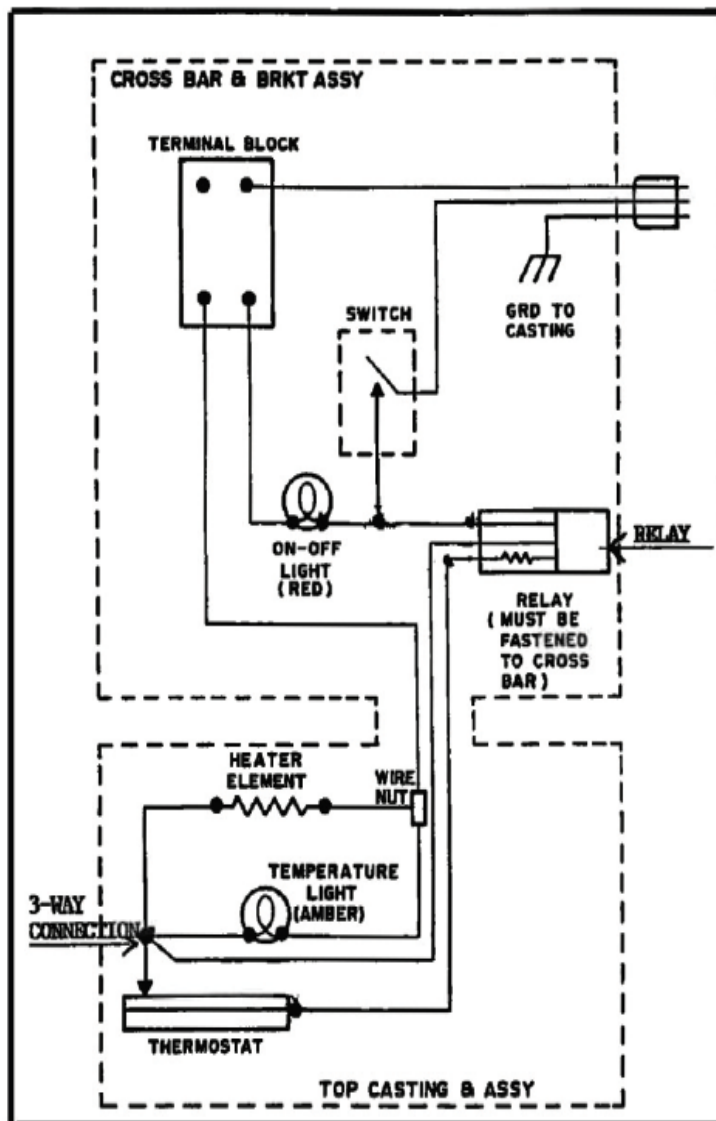
133108	Turn screw counter-clockwise to increase temperature
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100897	Turn screw clockwise to increase temperature
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Instructions for Triac Relay removal

- 1.) Cut all three wires to relay.
- 2.) Hook two thick wires together.
- 3.) Open thermostat area.
- 4.) Disconnect thin wire from thermostat and discard.

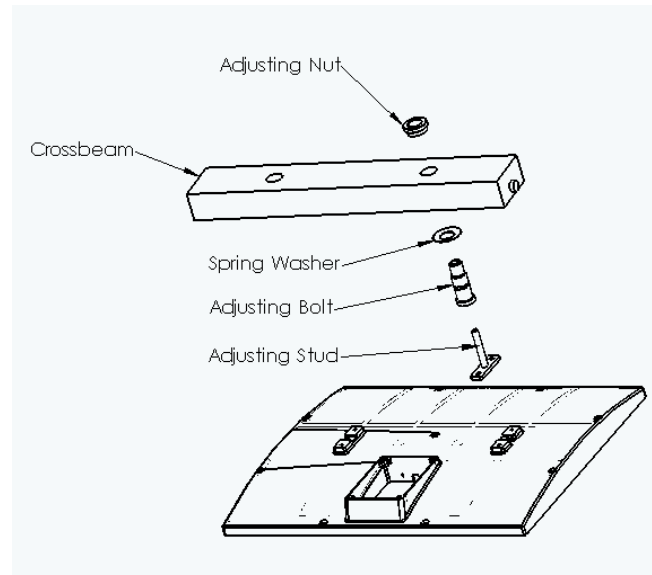
- 5.) Identify thick wire to relay by tugging on end in thermostat area. Remove this wire from three way connection and reconnect where thin wire was.



INSTRUCTIONS FOR INSTALLING PRESSURE ADJUSTING PARTS JUMBO 160-160M, COMMERCIAL 210-210M, MASTERPIECE 500T

Remove existing parts

1. Disconnect press from electrical supply.
2. Lock press handle closed.
3. Completely remove adjusting nut by turning counterclockwise. (Two pieces on 210 and 500T press)
4. Return press handle to open position.
5. Reaching beneath crossbeam, turn adjusting bolt clockwise until it clears the beam. (Two pieces on 210 and 500T press)
6. Slide entire top assembly forward on sponge pad as far as it will go.
7. Remove spring washer. (Two pieces on 210 and 500T press)
8. Completely remove adjusting bolt by turning it counterclockwise. (Two pieces on 210 and 500T press)



NOTE: Adjusting stud can also be removed if necessary at this time by removing the fastening screws.

Install New Parts

9. Follow above steps in reverse order to install new parts.

PRESSURE ADJUSTMENTS FOR THE MECHANICAL PRESS

1. Put material in press (Gator Foam or Foam board)
2. Close the press in the locked position.
3. Unscrew adjusting nuts & Remove.
4. Open Lid
5. Turn Adjustment Screws
 - Counter Clockwise –Increase Pressure, Raise Lever Arms
 - Clockwise-Decrease Pressure, Lower Lever Arms
6. Close Lid & Screw on Adjusting Nuts.

Work with until it feels comfortable.

Heater Replacement

(160, 210, 500)

It is recommended that leather or rubber gloves be worn when handling the fiberglass insulation.

1. Turn the power switch to the **OFF** position. Disconnect the press from the power supply and let the press cool.
2. Using a small, straight blade screwdriver, loosen the setscrew in the thermostat knob. Pull the thermostat knob off and remove the conical spring, which is under the knob. Set the parts aside.
3. Close and lock the press while nothing is on the sponge pad.
4. Using a Phillips head screwdriver, remove all of the screws located around the perimeter of the top, noting washers under the head of each screw. It is important that these screws be put back into their original locations using the same number of washers upon reassembly.
5. Using the Phillips head screwdriver, remove the screws at the four corners of the nameplate. Remove the nameplate and place it aside with the four screws.
6. Remove the piece of glass wool insulation (if so equipped) located under the nameplate and set it aside. The wires to the heater and the thermostat are now exposed in the connection box.
7. Note that there are three wires connected to the thermostat. One wire is connected to one side and the other wires are all connected to the same point on the other side. Identify the wires and disconnect them from the thermostat.
8. Depending upon the type of press, the thermostat will be fastened to the platen (aluminum plate) with either one or two screws. Remove the screw(s) holding the thermostat in place. Lift out the thermostat and place it aside with the other parts. Note any washers used under the screw heads.
9. Inside the connection box, locate a connection wrapped in white electrical insulating tape. Remove the tape exposing a ceramic wire nut. Remove the wire nut and place it aside. **Important:** If a new wire nut is to be used upon reassembly, it must be ceramic as it is subject to extreme temperatures.
10. Mark the wires and then separate.
11. Open the press. The lid will rise allowing the aluminum platen, the heater, and the insulating material to rest on the pad.
12. Lift off the insulating material, exposing the heater. Remove the heater. **Note:** The replacement heater may appear more flexible and lighter in color than the original. The platen is now exposed with a piece of white paper like material covering it. Leave this in place.

13. Provided with the replacement heater should be connectors similar to those crimped onto the wire leads on the old heater. Attach the appropriate connectors to the new heater leads.
14. Place the new heater on the platen, making sure that the electrical leads are on the exposed face. Position the heater to match the edges of the platen. Be sure that the paper-like insulation between the heater and the aluminum platen does not shift covering the screw holes in the platen.
15. Place the fiberglass wool insulation on top of the new heater and feed the heater wires upward through the slot in the insulation. Be sure that the position of the wool insulation is such that no platen screw holes will be covered.
16. Feed the two wires from the new heater into the connection box as the press is gently closed. **DO NOT LOCK THE PRESS.**
17. Align the top casting and the aluminum platen. **Important:** the wires entering the connection box should be centered in the notch provided in the top casting preventing them from being pinched between the platen and the top casting.
18. Using a flashlight, check to be sure that all platen screw holes are in correct alignment with the holes in the top casting. Failure to do so will result in difficulty when replacing the Phillips head mounting screws around the perimeter of the top.
19. Lock down the press handle and recheck all alignment.
20. Insert the screw with lock washer into the holes along the edges of the lid, making sure that the same screws and washers that came out of a particular hole go back into it. Starting with a front screw, turn it slowly until the threads begin to engage; do not tighten. Work around the edges until all the screws are started properly. Tighten all of the screws. Be sure not to overtighten the screws. Doing so may strip the threaded holes in the platen.
21. Re-fasten the ceramic wire nut to the proper wires and wrap the wire nut with heat resistant electrical tape.
22. Fasten the thermostat to the aluminum platen using the same number of washers that were under the screw head(s) upon removal. Reconnect the wires to the thermostat in the same positions as was noted when you removed them.
23. Turn the thermostat shaft left and right to check that it moves freely and that there is no interference with the wire terminals that have just been fastened. Adjust the terminal angles if necessary.
24. Reposition the cover plate on the connection box. If the press is equipped with a thermometer, align the heat-sensing shoe in the hole in the heater; being certain that the shoe is in direct contact with the aluminum platen. Replace the four Phillips head screws and tighten down the nameplate.
25. Replace the thermostat knob spring and knob, making sure that the knob is in its original position. Tighten the setscrew in the thermostat knob.

- 26.** Plug in power cord and turn on the press. Turn thermostat knob to 200 degrees Fahrenheit. Let the press heat for five minutes then turn the thermostat knob counter clockwise. The amber light should go out. Turn the knob clockwise. The amber light should turn back on indicating that the press is operating properly. If the light fails to turn on or off, the wiring may be incorrect. If this occurs, recheck all wire connection points.

PLATEN REPLACEMENT

TOOLS REQUIRED:

- 1 Phillips Head Screwdriver
- 1 Small Straight-Blade Screwdriver
- 1 Straight-Blade Screwdriver

When attempting to replace the aluminum platen, follow steps 1 through 6 as outlined in the instructions for “Heater Instructions”, then proceed as follows:

1. Disconnect thermostat from platen.
2. Lift off the old platen and replace with the new one. Be sure that the holes in the new platen match the holes in the old. Depending upon the model of press you own, 160, 210, etc., the new platen may have different hole spacing for the thermostat mounting holes. These different hole patterns will be in approximate center of either edge of the new platen, corresponding to the front and rear edges of the press. Be sure that the correct hole pattern for your thermostat is along the front edge of the press.
3. Replace the paper-like insulation material (on some models), being sure not to cover the platen mounting holes.
4. Reconnect the thermostat.
5. Place the heater on the platen, aligning it with the platen holes.
6. Close the top casting onto the new platen, carefully aligning the platen holes with top casting holes. Do not lock the press.
7. Align the top casting and the aluminum plate. Important: The wires entering the connection box should be centered in the notch provided in the top casting. The wires should not be caught under the inside edges of the box.
8. Using a flashlight, check to ensure that all platen screw holes are in correct alignment with the holes in the top casting. Failure to do so will result in difficulty in replacing the mounting screws around the perimeter of the top.
9. Lock down press handle and recheck all alignment.
10. Insert the screws with lockwashers into the holes along the edges of the lid, making sure that the same screws and washers that came out of a particular hole go back into it. Starting with a front screw, turn it slowly until the threads begin to engage; do not tighten. Work around the edges until all the screws are started properly. Tighten all the screws. Be sure not to overtighten the screws. Doing so may strip the threaded holes in the platen.

11. Reposition the cover plate on the connection box. If the press is equipped with a thermometer, align the heat sensing shoe in the hole in the heater, being careful that the shoe is in direct contact with the aluminum platen. Replace the four Phillips head screws and tighten down the nameplate.
12. Replace the thermostat knob spring and the knob, making sure the knob is in its original position. Tighten the set screw in the thermostat knob.
13. Plug in power cord and turn on press. Turn thermostat knob to 200 F. Let press heat for five minutes after which time turn the thermostat knob counter-clockwise. The amber (yellow) light should go out. Turn the knob clockwise. The amber light should turn back on. This indicates that the press is operating properly. If the amber light fails to turn On, or OFF, the wiring may be improper. If this occurs, recheck all wire connection points.

ON/OFF SWITCH REPLACEMENT

TOOLS REQUIRED:

- 1 Pair of Needle-nose Pliers
- 1 Straight-blade screwdriver

110S

1. Disconnect power supply.
2. Remove the cover plate on the inside of the press base, located beneath the ON/OFF switch.
3. Using needle-nose pliers, or similar tool, carefully pull the terminals from the switch after noting their positions.
4. Pop the switch out of its opening from beneath while squeezing the locking lugs on the switch.
5. Push the new switch into its opening and reattach the terminals to their proper positions. NOTE: It is important that the terminal connections be tight. A loose connection will cause the switch to burn out prematurely.

160, 210, 360, early 500T (approx. 1974 – 1981)

Note: Early model 160 Jumbo – The early model 160's had the ON/Off switch mounted on the nameplate. Removal of the nameplate will offer easy access to the wiring and removal of switch.

On these presses, the switch is generally located in the crossbeam, although the very early 160 presses had the switch in the name plate, next to the thermostat control knob. This was later changed slightly to a system that utilized a plate into which the switch was mounted. This plate was in turn fastened to the crossbeam by four screws. The procedure for switch replacement in a press where it is mounted directly in the crossbeam (no plate) is as follows:

1. Disconnect power supply.
2. Close and lock press.
3. Remove the adjusting nuts by hand (refer to "Instructions for Installing Pressure Adjusting Parts" for diagram).
4. Fully open the press. The top will remain on the sponge pad, the crossbeam will rise up. You now have access to the underside of the crossbeam.
5. Remove the screws which hold the cover plate to the underside of the crossbeam.

6. Using needle-nose pliers, disconnect the terminals attached to the bottom of the switch.
7. The switch can now be removed by compressing the retaining portion of the switch and pushing it out or by breaking the spacer which is snapped underneath the crossbeam (a new switch spacer will be needed if this is done). Breaking the spacer is easily accomplished by using a small screwdriver and prying the spacer with a twisting motion.
8. Remove the switch from the top of the crossbeam.
9. Snap the new switch in place. Slide the spacer over the switch until it bottoms out on the underside of the crossbeam.
10. Reattach the wire terminals to their correct positions using needle-nose pliers.
11. Make sure all connections are tight. If any connections are loose, solder the connection securely or replace the terminals. Loose connections will cause the switch to burn out prematurely.
12. Replace the cover plate.
13. Bring the crossbeam back down over the adjusting stud to a closed but not locked position.
14. Align top assembly so that it will not rub on the hinge assembly when back in operation. Then lock down the handle.
15. Screw the lock nut back down and tighten (only finger tight). Your press is now ready for operation.

INDICATOR LIGHT REPLACEMENT

TOOLS REQUIRED:

- 1 Phillips or straight blade screwdriver (depending on unit).
- 1 pair of pliers, preferably needle-nosed.

110S, AM4

1. Disconnect power.
2. Access to the indicator lights can be gained by removing the protective metal cover plate, located on the underside of the machine. The indicator lights are held in place by push-on spring connectors. These connectors are difficult to remove intact, and therefore it is advised that new ones be used when installing new lights.

160, 210, 360 - Early Models Type I

1. Disconnect power.
2. On the early model machines the amber light is attached to the nameplate panel. Access is gained by removal of this panel. It is held in place by the Phillips head screws (4) located at each corner of the plate. Do not remove the two screws (if provided) that are located towards the center of this panel.
3. Note wire locations and disconnect leads.
4. Reattach all wire leads to the identical points of attachment upon replacement.

160, 210, 500T - Early Models Type II

On the later versions of the 160, 210 and 500T, the indicator lights were located in the crossbeam. These lights were mounted in holes that were placed directly in the cross beam. Access to these lights is as follows:

1. Disconnect power source.
2. Lock the press down.
3. Remove the pressure adjustment locking rings. (This can only be done when the press is fully locked). If the locking rings remain tight after the press is locked down, unlock the unit, place a couple of sheets of mount board in press to increase pressure slightly. Lock down the press and remove the rings.
4. The lights are secured from beneath with push-on clips. Upon removal, these will break, new clips will be needed for installation of new lights.

160, 210, 500T – Version Type III & IV

On the most recent generations of presses, the lights are attached to a metal plate. This plate is fastened to the crossbeam by means of four screws. Access is gained as follows:

1. Disconnect power source.
2. Remove the screws holding the metal plate to the crossbeam.
3. Twist of “push-on” light retainers.
4. Replace light using a new push on retainer.